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VI. *Remarks on a larger System of Reed Pipes from the Isle of Amsterdam, with some Observations on the Nose Flute of Otaheite.* By Joshua Steele, Esquire.

TO SIR JOHN PRINGLE, BART. P. R. S.

SIR,

Margaret-street,
Feb. 21, 1775.

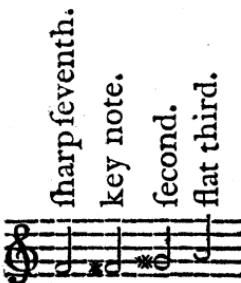
Rcdde, Feb. 22, 1775. THE notice taken of my small endeavours, by your illustrious Society, does me much more honour than I deserve; however, I receive it, as I ought, with respect and gratitude. I now inclose to you such farther remarks as I have been able to make, by repeated trials, on the last reed pipes you brought me from Mr. BANKS; which, though much larger, and more in number, are of the same *genus* with the former. I have also examined the nose-flute of Otaheite, which Mr. BANKS favoured me with; and I find it gives only four sounds, with the first degree of breath, which are, in an ascending series, by a semitone, a tone, and a semitone. Thus noted in consort-pitch,



Interval of
a semitone,
and a tone,
and
a semitone.

If

If urged with a stronger breath, it will give octaves above these; but it then becomes ill in tune: and I understood from Mr. Banks, the natives of Otaheite use no more than those first four sounds. Were I to give these notes denominations according to our system of music, they should be distinguished thus,



Notwithstanding the small extent of this series, yet, by the aid of varying the measure, it is capable of several different melodies, though the general cast of them will be melancholy. As for example,

; or;

These two specimens of melody, adapted to the nose-flute, are, harmonically, the same,

though rhythmically different; the latter having a degree of vivacity more than the former, in proportion to its measure of time; two bars of the first, being equal, in length, to three of the second.

I am, sir, with great regard,

Your very humble servant,

JOSHUA STEELE.

Remarks on the larger system of reed pipes from the
isle of Amsterdam.

The specific difference between this and the smaller system, described before, will be understood from the following observations. It consists of ten pipes, joined together in the same manner as those of the smaller system. The first nine pipes exhibit to the eye the same figure as the system before described in the drawing; and the tenth pipe (which is the additional) is a little longer than N° 4. For in this larger system, N° 8. is thirteen inches long; N° 4. thirteen and a half, nearly; and N° 10. is fourteen inches. The sounds which each pipe *exhibits easily*, are marked in *minims*, as follows, and are noted agreeable to comfort pitch:

N° 1. 2. 3. 4. 5. 6. 7. 8. 9. 10.

As

As the upper minims are sixths to those next under them, it follows, from the law of harmonic sounds, that the lower minims are fifths to the fundamental sounds of these pipes, which are written in quavers, to shew that they are very difficult to be produced. The upper minims of N° 1. 2. 3. 4. 5. and also of 10. are sharp thirds, or rather, major tenths, to the fundamental sound of each pipe. And the upper minims of N° 6. 7. 8. and 9. are nearly minor tenths to their fundamentals; which circumstance seems to agree with what I remarked in the smaller system, as an extraordinary property, touching the minor thirds. + But I will not yet assert, that this property is altogether natural, because I found some of these latter pipes were partly obstructed by accidental rubbish, which was drawn out with difficulty; so that I pretend not to decide, whether the cause of their being, not quite, in the same proportion of tune, as I found in the first system, arises from some casual injury, or from original intention, or original inaccuracy. + I have said, the upper minims of N° 6. 7. 8. and 9. are *nearly* minor tenths to their fundamentals; because, in fact, I found them something more than *minor*, and yet not *major*; wherefore I have used the mark (**), of a triple cross, to signify something more than (*), the double cross; and the mark of (x), a single cross, to signify a *diesis*, or something less than (*), the double cross; which last, in the modern practice of music, always means to say, *plus a semitone*, neither more or less. For though

+ and † referred to from the following page.

the nicety of the *diesis* is stealing insensibly into the fancy of singers, and of some other elegant musical performers, it is not as yet adopted, or used as such, in the notation of modern music. The interval between N° 1. and 2. in these pipes, is only of two semitones; whereas, that between the N° 1. and 2. of the former system, was of three semitones. The series N° 2. 3. 4. and 5. and the series N° 6. 7. 8. and 9. (both of which I have distinctly marked within bars) have similar intervals in both systems (making allowance for what I have said in page 75, † and ‡.) Wherefore I imagine these to have been the original extent of the whole modulating series, like the double tetrachord of the Greeks, and that the N° 11. and N° 10. are additionals at pleasure; as, in the smaller system, the interval between N° 1. and 2. was a semitone greater than that between N° 1. and 2. in the larger system; and N° 10. in the smaller system (first examined) was totally omitted, though I have seen two others which had it. The sounds in this larger system are seven tones lower than those of the smaller, which corresponds with the difference of their dimensions; the pipe N° 4. in this system measuring nearly thirteen inches and a half in length, with diameter seemingly proportional; whereas the N° 4. in the smaller system measured only seven inches and a quarter. By increasing the velocity of the blast, I found these pipes gave sounds still higher, which were *fourths* above the upper minims, or *octave and sixths* above the fundamentals; and with a little more force, *tritones*, or *sharp fourths*, above

above the upper minimis, which were *octave and flat sevenths* above the fundamentals. But these two (the 4th and sharp 4th above the upper minimis) should rather be considered as one *note of latitude*, which by more or less velocity, or force of breath, makes in the N° 1. 2. 3. 4. 5. and 10. either a sharp 6th, or a flat 7th, to each of the fundamentals; or in the N° 6. 7. 8. and 9. either a flat or a sharp 6th.



This note of latitude is common to all tubes, trumpets, horns, &c.

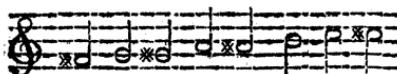
The following notes mark the ascending series of the sounds of this larger system, omitting the fundamentals, and giving only those which are more easily obtained.

The numerical figures shew from which pipe the notes were produced.

N° 10.

3. 7.

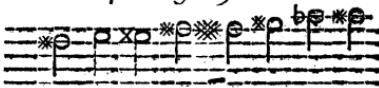
N° 10. 4. 8. 5. 9. 2. 6. 1.



Fifths above the supposed fundamentals, produced by a gentle blast.

3. 7.

N° 10. 4. 8. 5. 9. 2. 6. 1.



Tierces, or tenths, above the supposed fundamentals, produced by a stronger blast.